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L2	1	(multiple adj agent adj simulation)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/10/06 13:41
L3	11	((multiple adj agent) with simulation) and environment	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/10/06 13:41
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A case study of verification, validation, and accreditation for advanced distributed

simulation

Ernest H. Page, Bradford S. Canova, John A. Tufarolo

July 1997 ACM Transactions on Modeling and Computer Simulation (TOMACS), Volume

7 Issue 3 Publisher: ACM Press

Full text available: pdf(501.51 KB)

Additional Information: full citation, abstract, references, citings, index terms, review

The techniques and methodologies for verification and validation of software-based systems have arguably realized their greatest utility within the context of simulation. Advanced Distributed Simulation (ADS), a major initiative within the defense modeling and simulation community, presents a variety of challenges to the classical approaches. A case study of the development process and concomitant verification and validation activities for the Joint Training Confederation (JTC) is presented ...

**Keywords**: IDEF modeling, advanced distributed simulation, aggregate level simulation protocol, life cycle, validation and accreditation, verification, wargame

<sup>2</sup> Computing curricula 2001

September 2001 Journal on Educational Resources in Computing (JERIC)

Publisher: ACM Press

Full text available: pdf(613.63 KB) html(2.78 KB)

Additional Information: full citation, references, citings, index terms

3 The winter simulation conference: perspectives of the founding fathers

Michel Araten, Harold G. Hixson, Austin C. Hoggatt, Philip J. Kiviat, Michael F. Morris, Arnold Ockene, Julian Reitman, Joseph M. Sussman, James R. Wilson

December 1992 Proceedings of the 24th conference on Winter simulation

Publisher: ACM Press

Full text available: pdf(2.83 MB)

Additional Information: full citation, references, citings, index terms

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Los Angeles, CA Article No. 11

Year of Publication: 2004

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Publisher ACM Press New York, NY, USA

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#### **↑ ABSTRACT**

Weta Digital's work on the "Lord of the Rings" trilogy involved it in all aspects of feature film visual effects, from creature and digital double animation to massive battle scenes, from the creation of entirely digital environments to the ground-breaking digital performance of Gollum.

#### **↑ Collaborative Colleagues:**

Matt Aitken: Greg Butler

Dan Lemmon
Dana Peters
Martin Preston
Eric Saindon
Guy Williams

Greg Butler: Matt Aitken Ferhat Khendek Eric Saindon

Don Batory Clement Lam Larry Thiel John J. Cannon Dan Lemmon Ju Wang Krzysztof Czarnecki Susan H. Ley **Guy Williams** Shawn Delaney <u>Jinmiao Li</u> Jian Xu Ulrich Eisenecker Jun Li Lugang Xu Andrea Gantchev Yun Mai Wei Yu

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Session 7B: agent analysis and design: Extreme programming of multi-agent

systems

Holger Knublauch

July 2002 Proceedings of the first international joint conference on Autonomous agents and multiagent systems: part 2

Publisher: ACM Press

Full text available: pdf(776.87 KB) Additional Information: full citation, abstract, references, index terms

The complexity of communication scenarios between agents make multi-agent systems difficult to build. Most of the existing Agent-Oriented Software Engineering methodologies face this complexity by guiding the developers through a rather waterfall-based process with a series of intermediate modeling artifacts. While these methodologies lead to executable prototypes relatively late and are expensive when requirements change, we explore a rather evolutionary approach with explicit support for chang ...

Keywords: agent-oriented software engineering

What is scalability in multi-agent systems?

Omer F. Rana, Kate Stout

June 2000 Proceedings of the fourth international conference on Autonomous agents

Publisher: ACM Press

Full text available: 🔂 pdf(918.10 KB) Additional Information: full citation, references, citings, index terms

Keywords: agent-based software engineering, designing agent systems, lessons learned from deployed agents, multi-agent communication - coordination - and collaboration, organization of agent societes

Coordinating autonomous entities with STL

Oliver Krone, Fabrice Chantemarque, Thierry Dagaeff, Michael Schumacher September 1998 ACM SIGAPP Applied Computing Review, Volume 6 Issue 2

Publisher: ACM Press

Full text available: pdf(1.67 MB)

Additional Information: full citation, abstract, index terms

This paper describes ECM, a new coordination model and STL its corresponding language. STL's power and expressiveness are shown through a distributed implementation of a generic autonomy-based multi-agent system, which is applied to a collective robotics simulation, thus demonstrating the appropriateness of STL for developing a generic coordination platform for autonomous agents.

Keywords: autonomous agents, collective robotics, coordination, distributed systems

4 Coordinating autonomous entities

Oliver Krone, Fabrice Chantemargue, Thierry Dagaeff, Michael Schumacher, Béat Hirsbrunner February 1998 Proceedings of the 1998 ACM symposium on Applied Computing

**Publisher: ACM Press** 

Full text available: pdf(1.22 MB) Additional Information: full citation, references, index terms

**Keywords**: autonomous agents, collective robotics, coordination, distributed systems

5 Requirements engineering in the year 00: a research perspective

Axel van Lamsweerde

June 2000 Proceedings of the 22nd international conference on Software engineering

Publisher: ACM Press

Full text available: pdf(205.79 KB)

Additional Information: full citation, abstract, references, citings, index terms

Requirements engineering (RE) is concerned with the identification of the goals to be achieved by the envisioned system, the operationalization of such goals into services and constraints, and the assignment of responsibilities for the resulting requirements to agents such as humans, devices, and software. The processes involved in RE include domain analysis, elicitation, specification, assessment, negotiation, documentation, and evolution. Getting high-quality requirements is difficult and ...

6 Requirements engineering: Information systems development through social

structures

Manuel Kolp, Paolo Giorgini, John Mylopoulos

July 2002 Proceedings of the 14th international conference on Software engineering and knowledge engineering SEKE '02

Publisher: ACM Press

Full text available: pdf(336.73 KB) Additional Information: full citation, abstract, references, index terms

Information systems for organizations such as e-business and knowledge management systems must continually evolve to adapt to their operational environment. Unfortunately, current development methodologies do not support system evolution well, making software an obstacle to organizational changes. The paper describes a framework that develops and evolves seamlessly a system-to-be within its organizational environment. We adopt a set of social structures --- organizational styles and social patte ...

**Keywords**: i\* framework, tropos methodology, requirements engineering

7 A study of locking objects with bimodal fields

Tamiya Onodera, Kiyokuni Kawachiya

October 1999 ACM SIGPLAN Notices, Proceedings of the 14th ACM SIGPLAN conference on Object-oriented programming, systems, languages, and

#### applications OOPSLA '99, Volume 34 Issue 10

**Publisher: ACM Press** 

Full text available: pdf(1.45 MB)

Additional Information: full citation, abstract, references, citings, index

terms

Object locking can be efficiently implemented by bimodal use of a field reserved in an object. The field is used as a lightweight lock in one mode, while it holds a reference to a heavyweight lock in the other mode. A bimodal locking algorithm recently proposed for Java achieves the highest performance in the absence of contention, and is still fast enough when contention occurs. However, mode transitions inherent in bimodal locking have not yet been fully considered. The algorith ...

8 Architecture and performance evaluation of a massive multi-agent system

Gaku Yamamoto, Yuhichi Nakamura
April 1999 Proceedings of the third annual conference on Autonomous Agents

Publisher: ACM Press

Full text available: pdf(845.24 KB) Additional Information: full citation, references, citings, index terms

**Keywords**: electronic commerce, mobile agent, multi agent

<sup>9</sup> A model-based approach to simulation composition

Jesse Aronson, Prasanta Bose May 1999 Proceedings of the 1999 symposium on Software reusability

Publisher: ACM Press

Full text available: pdf(1.25 MB)

Additional Information: full citation, references, index terms

Keywords: component selection, composition, constraints, domain-specific architectural model, hierarchical decomposition, simulation

10 Software infrastructure for parallel visualization: Jupiter: a toolkit for interactive large model visualization

Dirk Bartz, Dirk Staneker, Wolfgang Straßer, Brian Cripe, Tom Gaskins, Kristann Orton, Michael Carter, Andreas Johannsen, Jeff Trom

October 2001 Proceedings of the IEEE 2001 symposium on parallel and large-data visualization and graphics

Publisher: IEEE Press

Full text available: pdf(1.05 MB) Additional Information: full citation, abstract, references, index terms

The fast increasing size of datasets in scientific computing, mechanical engineering, or virtual medicine is quickly exceeding the graphics capabilities of modern computers. Toolkits for the large model visualization address this problem by combining efficient geometric techniques, such as occlusion and visibility culling, mesh reduction, and efficient rendering. In this paper, we introduce Jupiter, a toolkit for the interactive visualization of large models which exploits the above mentio ...

Keywords: Large Model Visualization, Toolkit, Visibility, occlusion culling

11 Runaway information systems projects and escalating commitment Robert C. Mahaney, Albert L. Lederer April 1999 Proceedings of the 1999 ACM SIGCPR conference on Computer personnel

#### research

Publisher: ACM Press

Full text available: 🔁 pdf(669.65 KB) Additional Information: full citation, references, index terms

Keywords: agency theory, escalation of commitment, information systems project management, runaway projects

12 Human-computer interface development: concepts and systems for its management

H. Rex Hartson, Deborah Hix

March 1989 ACM Computing Surveys (CSUR), Volume 21 Issue 1

Publisher: ACM Press

Full text available: pdf(7.97 MB)

Additional Information: full citation, abstract, references, citings, index terms, review

Human-computer interface management, from a computer science viewpoint, focuses on the process of developing quality human-computer interfaces, including their representation, design, implementation, execution, evaluation, and maintenance. This survey presents important concepts of interface management: dialogue independence, structural modeling, representation, interactive tools, rapid prototyping, development methodologies, and control structures. Dialogue independence is th ...

13 CVE'98: collaborative virtual environments 1998



Elizabeth F. Churchill, Dave Snowdon

August 1998 ACM SIGGROUP Bulletin, Volume 19 Issue 2

Publisher: ACM Press

Full text available: pdf(250.21 KB) Additional Information: full citation, abstract, index terms

A Collaborative Virtual Environment (CVE) is an application that uses a Virtual Environment to support human-human and human-system communication. Within such virtual environments, multiple users can convene, communicate and collaborate. Virtual Environments vary in their representational richness; for example environments may be graphical (2D or 3D) or may be purely text-based as with many MUDs/MOOs. Users are often represented by embodiments (or "avatars"), which also can vary from rich moving ...

14 A computer ethics bibliography



Herman T. Tavani

December 1995 ACM SIGCAS Computers and Society, Volume 25 Issue 4

Publisher: ACM Press

Full text available: pdf(2.85 MB) Additional Information: full citation, index terms

15 A framework analysis of the open source software development paradigm Joseph Feller, Brian Fitzgerald

December 2000 Proceedings of the twenty first international conference on Information systems

Publisher: Association for Information Systems

Full text available: Additional Information: full citation, references, citings, index terms

Kevin Sullivan, John C. Knight, Xing Du, Steve Geist

May 1999 Proceedings of the 21st international conference on Software engineering

Publisher: IEEE Computer Society Press

Full text available: pdf(1.23 MB) Additional Information: full citation, references, citings, index terms

**Keywords**: architecture economics, control, infrastructure survivability

17 The dynamics of mass online marketplaces: a case study of an online auction

Jungpil Hahn

March 2001 Proceedings of the SIGCHI conference on Human factors in computing systems

Publisher: ACM Press

Additional Information: full citation, abstract, references, index terms, Full text available: pdf(195.95 KB) review

The Internet has dramatically changed how people sell and buy goods. In recent years we have seen the emergence of electronic marketplaces that leverage information technology to create more efficient markets such as online auctions to bring together buyers and sellers with greater effectiveness at a massive scale. Despite the growing interest and importance of such marketplaces, our understanding of how the design of the marketplace affects buyer and seller behavior at the individual level ...

Keywords: electronic marketplaces, information overload, item display, market navigation, market technostructure, massive scale online auctions, online market design

18 Risks to the public in computers and related systems

Peter G. Neumann

March 1997 ACM SIGSOFT Software Engineering Notes, Volume 22 Issue 2

Publisher: ACM Press

Full text available: pdf(726.04 KB) Additional Information: full citation, index terms

19 Risks to the public in computers and related systems

Peter G. Neumann

January 1998 ACM SIGSOFT Software Engineering Notes, Volume 23 Issue 1

Publisher: ACM Press

Full text available: pdf(794.45 KB) Additional Information: full citation, index terms

The state of the art in locally distributed Web-server systems

Valeria Cardellini, Emiliano Casalicchio, Michele Colajanni, Philip S. Yu

June 2002 ACM Computing Surveys (CSUR), Volume 34 Issue 2

Publisher: ACM Press

Additional Information: full citation, abstract, references, citings, index Full text available: pdf(1.41 MB) terms

The overall increase in traffic on the World Wide Web is augmenting user-perceived response times from popular Web sites, especially in conjunction with special events. System platforms that do not replicate information content cannot provide the needed scalability to handle large traffic volumes and to match rapid and dramatic changes in the number of clients. The need to improve the performance of Web-based services has

produced a variety of novel content delivery architectures. This article w ...

Keywords: Client/server, World Wide Web, cluster-based architectures, dispatching algorithms, distributed systems, load balancing, routing mechanisms

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John Colter, Netscape Navigator

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M Aitken, G Butler, D Lemmon, E Saindon, D Peters, ... - Proceedings of the conference on SIGGRAPH 2004 course notes, 2004 - portal.acm.org

... Over the years that **Weta Digital** has been running **Massive software** some pretty smart **Massive** brains have been developed. **Massive** ... Web Search

The Big and the Smeagol.

B Robertson - Computer Graphics World, 2004 - csa.com

... Weta Digital of Wellington, New Zealand, created 1,500 of ... addition, Massive Soft-ware's Massive handled procedural ... and Giant Studios' Giant software was used ... Web Search

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P Jackson, E Wood - 2002 - hdr-filme.de

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Crowd Simulation in a Shopping Center

MF Noel - 2005 - comp.leeds.ac.uk

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Blades Have the Edge - group of 4 »

J Wright - Spectrum, IEEE, 2005 - ieeexplore.ieee.org

... That was the case, for example, for **Weta Digital** Ltd., a ... when it decided to build a **massive** computer cluster ... much in their hardware as in the **software** used to ... <u>Cited by 1</u> - Related Articles - Web Search

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